

Applicants believe independent claim 11 as previously presented is patentable over the cited references because, for instance, they do not teach or suggest an impedance monitor electrically coupled to the high frequency (HF) electrode to measure the impedance at the HF electrode and to the low frequency (LF) electrode to measure the impedance at the LF electrode. In order to expedite prosecution, however, Applicants have amended claim 11 to add the features recited in claim 22. Claim 11 as amended recites that the impedance monitor comprises a first impedance probe electrically coupled to the HF electrode to measure the impedance at the HF electrode and a second impedance probe electrically coupled to the LF electrode to measure the impedance at the LF electrode. This feature is completely absent from the references.

Claim 5

Claim 5 depends from claim 3 which depends from claim 11. Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Salimian et al. in view of Patrick et al., Kinoshita et al., Maher et al., and Ohmi, and further in view of Boys et al. (USP 4,695,700).

Applicants respectfully assert that claim 5 is patentable because Boys et al. does not cure the defects of the other references, and also fails to teach or suggest the impedance monitor as recited in claim 11. *→ not used for impedance.*

Furthermore, claim 5 recites a pressure control system configured to control a pressure level within the chamber to vary the pressure within the chamber in response to the measured impedance level of the plasma. As discussed in the specification at page 29, lines 4-7, pressure variation can be used to adjust for an impedance drift. Nothing in the cited art suggests this feature. Boys et al. merely describes a vacuum gauge (47) for monitoring the pressure in the processing area (13) (col. 8, lines 28-29), and discloses carrying out a plasma process by setting a desired operating pressure (col. 14, lines 24-25). Boys et al. does not suggest adjusting the pressure in response to measured impedance level of the plasma. Patrick et al. is completely devoid of any suggestion to vary the pressure in response to the measured impedance level of the plasma, and does not even discuss pressure control. Accordingly, Applicants respectfully contend that claim 5 is patentable.

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et al

←
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drawing

Claim 21

Claim 21 depends from claim 11. Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Salimian et al. in view of Patrick et al., Kinoshita et al., Maher et al., and Ohmi, and further in view of Grewal et al. (USP 5,597,438).

Applicants respectfully contend that claim 21 is patentable at least for the same reasons that claim 11 is patentable as discussed above, since Grewal et al. merely discloses the use of a plurality of RF generators and does not cure the defects of the other five references.

Claims 17 and 18


Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Salimian et al. in view of Patrick et al. and Kinoshita et al., Maher et al., and Ohmi.

Applicants believe claims 17 and 18 are patentable because the references do not disclose or suggest means for monitoring the impedance level of the dual frequency plasma as recited in claim 17, and the variable capacitor electrically coupled to the processing chamber to vary the impedance of the dual frequency plasma as recited in claim 18. Applicants would, however, agree to cancel claims 17 and 18 if the remaining claims are deemed allowable.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is urged. If the Examiner believes a telephone conference would aid in the prosecution of this case in any way, please call the undersigned at 650-326-2400.

Respectfully submitted,



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